

MISSOURI

CONSERVATIONIST

March
2004

Volume 65,
Issue 3



Vantage Point

Got Fish?

Fishing is not only fun, but therapeutic. One of my favorite sayings is, "Each day spent fishing adds another day to your life." According to the latest national survey, the three most popular reasons people fish are to relax, for the fun of catching fish, and for the opportunity to be outdoors. When selecting places to fish, people prefer to go to uncrowded, litter-free areas where the water is clean and the fish are healthy.

The Conservation Department's sport fisheries management philosophy focuses on providing a variety of fishing opportunities for novice and experienced anglers alike, with an emphasis on close-to-home opportunities.

The way you fish and the species you prefer to catch is purely up to you, as is the amount and quality of gear and supplies you bring. Fortunately, a very large and responsive recreational boating and fishing industry exists to meet all possible needs for fishing tackle and equipment.

The Conservation Department wants to improve our waters and the surrounding lands for all anglers, regardless of whether they prefer sitting in a folding chair on a pond bank, or in a soft boat seat on a large reservoir. The fish don't play favorites, and neither do we.

Whenever possible, we manage sport fish populations to sustain themselves with natural reproduction. Most fish you catch in Missouri hatch in the wild. If natural reproduction of sport fish isn't enough to keep up with angling pressure, we increase populations by adding fish produced at our hatcheries.

With the 2004 fishing season about to get into high gear, I encourage you to pull out the calendar, call the family around the kitchen table and plan your first trip of the year. For an added treat, invite someone who has never experienced the joys of fishing.

Planning a fishing trip may seem like a lot of work, but it doesn't compare to what the Conservation Department does in order to make Missouri lakes and streams inviting and enjoyable.

If I could show you some video footage from a time-lapse camera set up at a public lake or stream access, here's what you might see:

- ▲ The maintenance crew leader mowing the grass.
- ▲ A heavy equipment operator grading the parking lot.
- ▲ Local volunteers picking up litter.
- ▲ A fisheries biologist sampling the fish population by electrofishing.
- ▲ A resource technician eradicating nuisance weeds along the shoreline.



Cliff White

- ▲ The conservation agent responding to a call from someone needing assistance.
- ▲ The area manager checking to see if the proper information signs are posted.
- ▲ A construction crew building a new boat ramp.

Not all fisheries related work is conducted near the water. More camera work would show Conservation Department employees miles away, working to enhance the quality of your fishing adventures. You might see:

- ▲ The Regulations Committee passing a rule that ensures more consistent catches.
- ▲ An administrative assistant preparing the weekly fishing tips report.
- ▲ A technician printing regulations signs.
- ▲ A designer putting the finishing touches on the area map.
- ▲ A hatchery crew feeding catfish destined for your favorite small public lake.

From fisheries biologists, to area managers to the commissioners who authorize management regulations, Conservation Department employees are doing everything they can to improve the fishing in Missouri waters and, hopefully, add a few days to your life.

Steve Eder, Fisheries Division Administrator

Contents

March 2004
Volume 65, Issue 3

4 THE FISHING BUG

—By Mark Van Patten

Mayflies are key to good fishing for smallmouth bass and trout.

8 NO MUDDY WATERS FOR STREAM TEAM

—By Kathryn Buckstaff

A high school Stream Team program graduates students committed to good water quality.

12 A SURVIVOR'S TALE

—By Randee Wahlgren

My bout with breast cancer brought me closer to my family and its turkey hunting tradition.

15 TOO MUCH SUGAR!

—By Gus Raeker & Mike Stambaugh

Sugar maple trees are crowding out more desirable species along our river corridors.

19 WHERE THERE'S FUEL, THERE COULD BE FIRE

—By George Hartman

Devastating fires in the West have taught us to monitor and manage forest floor fuel loads.

24 BEST FISHING TRIP

—By Boyd Clemens

We weren't rich, but we had all the materials for a memorable day of fishing the creek.

DEPARTMENTS

Reflections 2

News & Almanac 28

COVER

American woodcock by Jim Rathert



Printed on recycled paper with soy ink.



4



8



12



15



19



24

Contact Us: Web page: <http://www.missouriconservation.org>

Subscriptions: free to adult Missouri residents;

out of state \$7 per year; out of country \$10 per year.

Send correspondence to Circulation, P.O. Box 180, Jefferson City, MO 65102-0180.

Phone: 573/522-4115, ext. 3856 or 3249

E-mail General Questions: ken.drenon@mdc.mo.gov

E-mail Magazine Subscriptions: subscriptions@mdc.mo.gov



MESMERIZED

The January 2004 issue just arrived, and I have read it from cover to cover. It is excellent! Every article was well written and informative.

Not only are the articles outstanding, but the photos and illustrations are exceptional. I found myself studying every detail of the color illustrations on pages 4-5, 7, 8, 12, and 16. The photograph on pages 10-11, mesmerized me for several minutes, as did that on page 14.

The comparison of the old/new river on page 13 reminded me of the oxbow lakes I used to fly over at low altitude.

Although I will never build a dugout, I feel I could with the text and illustrations offered in the article by Jim Low. And believe it or not, I was so taken with the photograph on page 24, that I was actually trying to figure out a way to frame it. "Our" conservation magazine is always well done and informative, but this one is a definite "keeper". Thank you.

Doyle H. Wyatt, Lawson

Michael Haynes, who did the cover illustration for your January issue, is

absolutely amazing! I could almost hear the water churning as the ship sails along and the sound of the pole cracking as the mast hits the tree. I'd give it a perfect "10."

Also, the picture of river shoals on the back cover is beautiful with the different shades of blue and mauve and the fog over the water.

Mrs. Edward Russell, Cameron

Your article, "The Wild Missouri River," reminds us of what a joy and challenge the "real" Missouri River must have been for the Corps of Discovery.

Today's river is an example of nature rendered asunder. Hopefully, future generations will allow the river to at least partially regain some of its majesty.

Fred Boeneker, Glendale

USING OUR TOOLS

In "Continuing the Voyage of Discovery," the author says we have better tools for information gathering than Lewis and Clark. That's true, but we better start using them or the quail and rabbits will be like the Carolina parakeet: extinct.

The problem is not just on farm

ground, but on all the conservation ground that I have been hunting for some 50 years.

Dean Stroup, Eureka

PUKE, BUZZARD!

Your nice article on buzzards omits one important piece of Missouri cultural history. Mother, who would have been 103 if still alive, used as her favorite expression, "Well puke, buzzard, puke." I have imparted this vulgarism and the reason for it to students for more than 30 years.

Buzzards will stuff themselves in the course of their cleanup operations. If threatened, they often need to lighten the load, so to speak, and can do so with the accuracy of an old-time tobacco spitter.

Their gastric juice is so strong that it can blind an animal and take paint off a car or truck. Those who would run afoul of a turkey buzzard in the middle of the road may well find themselves unleashing even more direful curses.

Michael B. Dougan, Tecumseh

COUNTING BIRDS

In your article "The World's Best Bird-watcher," you state that according to the American Birding Association, Pete Winter is the world's top-ranked living bird-watcher.

On the latest list of the ABA, Tom Gullick of Spain is listed as number one with 8,195 world bird species. George "Pete" Winter is number two with 7,716 species.

David Easterla, Maryville

DANCING

The article on prairie chickens was a delight to me. Years ago, my husband and I lived in the Sandhills of Nebraska and often heard the birds booming. Only once did we see them. Along the road a big flock was going through the routine—dancing and booming and blowing up their beautiful orange sacs. I've never forgotten that mystical morning. What a sight!

I've heard that the American Indians



FASHIONABLE FROG

Gene Pattie Jr. of Marshall, snapped this photo of a bullfrog surfacing beneath a beetlespin lure. He spotted the frog on his parent's 3-acre lake near Dewitt. Frogs sometimes bite at lures. This one seems more interested in wearing the lure than in eating it.

copied the prairie chickens for some of their dancing.

Harriett Rumbaugh, Fulton

HEARING VOICES

I want to commend the Conservation Department. Recently, I bought the CD "Fiddles and Forests" and the audiotape "Voices of the Hills, A Journey to Shannon County." The instrumentation, vocals and accompanying narrations are not only entertaining but historically informative about our state's early settlers, especially the Scots-Irish. Because I am of Scot's-Irish descent, this music plays well to my ears and soul.

Harry McGuire, Lee's Summit

MORE FISHING

I enjoy the *Missouri Conservationist*, which I have received for 42 years. I read the issues from cover to cover, and many times over! The magazine's quality has improved immensely during this time period.

I would enjoy seeing more articles pertaining to catfish and carp fishing. However, I understand that not everyone has the same desire to fish and read about those fish.

Your office in St. Joseph has always been ready and willing to assist me when I need information, lake and river conditions, etc.

Dave Estes, St. Joseph

The letters printed here reflect readers' opinions about the Conservationist and its contents. Space limitations prevent us from printing all letters, but we welcome signed comments from our readers. Letters may be edited for length and clarity.

Ask the Ombudsman



Q: Why do some trees keep their leaves through the winter while some of the same types of trees (oaks) lose theirs?

A: Conservation Department botanist Tim Smith addressed this matter in the November 1991 issue in an article titled "Nature's Procrastinators." It's an intriguing situation involving mostly oaks, but sugar maple, beech, hornbeam and eastern hophornbeam can also have this trait, known as marcescent (or late-falling) leaves.

Most leaves develop a separation layer due to hormonal changes, resulting in the leaf falling in autumn. Marcescent leaves delay the separation process. During winter the leaf appears to be dead, but the base of the leaf remains alive. As the weather warms in the spring, the leaf goes through a process similar to other leaves and eventually separates and falls.

According to Conservation Department botanist Tim Smith, the marcescent species are farther north than where they originated and haven't yet adapted completely to a shorter growing season. They don't take their cues from the arrival of fall weather and get their leaf separation business taken care of before it gets too cold for them to accomplish it.

Now is a good time to be thinking about tree care. The Conservation Department has a number of helpful publications. For details visit www.mdc.mo.gov/forest/library/.

Ombudsman Ken Drenon will respond to your questions, suggestions or complaints concerning Conservation Department programs. Write him at P.O. Box 180, Jefferson City, MO 65102-0180, call him at 573/522-4115, ext. 3848, or e-mail him at <Ken.drenon@mdc.mo.gov>.

MISSOURI CONSERVATIONIST

GOVERNOR Bob Holden

THE CONSERVATION COMMISSION

Stephen C. Bradford
Anita B. Gorman
Cynthia Metcalfe
Lowell Mohler

DIRECTOR John Hoskins

DEPUTY DIRECTOR John W. Smith
DEPUTY DIRECTOR Stephen J. Wilson
ASSISTANT TO THE DIRECTOR Denise Garnier
ASSISTANT TO THE DIRECTOR Robert Ziehmer
INTERNAL AUDITOR Robbie B. Briscoe

DIVISIONS

ADMINISTRATIVE SERVICES Carter Campbell
FISHERIES Steve Eder
FORESTRY Bob Krepps
HUMAN RESOURCES Debbie Goff
OUTREACH & EDUCATION Lorna Domke
PRIVATE LAND SERVICES Lisa G. Allen
PROTECTION Dennis Steward
RESOURCE SCIENCE Dale D. Humburg
WILDLIFE Dave Erickson

REGIONAL OFFICES

Cape Girardeau/Southeast—573/290-5730
Columbia/Central—573/884-6861
Kansas City—816/655-6250
Kirksville/Northeast—660/785-2420
Springfield/Southwest—417/895-6880
St. Joseph/Northwest—816/271-3100
St. Louis—636/441-4554
West Plains/Ozark—417/256-7161

CONSERVATIONIST STAFF

EDITOR Tom Cwynar
MANAGING EDITOR Bryan Hendricks
ART EDITOR Ara Clark
ARTIST Dave Besenger
ARTIST Mark Raithe
PHOTOGRAPHER Jim Rathert
PHOTOGRAPHER Cliff White
STAFF WRITER Jim Low
STAFF WRITER Joan McKea
CIRCULATION Laura Scheuler

The *Missouri Conservationist* (ISSN 0026-6515) is the official monthly publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: P.O. Box 180, Jefferson City, MO 65102). Subscription free to adult Missouri residents; out of state \$7 per year; out of country \$10 per year. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Mo., and at additional entry offices. Postmaster: Send correspondence to Circulation, P.O. Box 180, Jefferson City, MO 65102-0180. Phone: 573/751-4115. Copyright © 2003 by the Conservation Commission of the State of Missouri.



Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, national origin, sex, age or disability. Complaints of discrimination should be sent to the Department of Conservation, P.O. Box 180, Jefferson City, MO 65102, OR U.S. Fish & Wildlife Service, 18th and "C" Streets NW, Washington D.C. 20240, Missouri Relay Center —1-800-735-2966 (TDD).

Printed in USA

THE FISHING BUG

Finding mayflies in a stream is usually a sign that the fishing will be good.

BY MARK VAN PATTEN, PHOTOS BY JIM RATHERT

Standing knee deep in the Gasconade River trying to decide what fly to tie on to my line, I was startled by the nearby splash of a feeding smallmouth. Soon, I started spotting lots of floating mayflies, and fish began rising regularly around me to sip them from the surface.

After identifying the specific mayfly hatching, I tied on a #12 Mahogany Quill dry fly to my leader. The artificial dry fly was the closest match I could make to the *Isonychia* bicolor mayflies the fish were eating.



Mayflies occupy the same clean-water streams as trout and smallmouth bass. Mayfly imitations like the Mahogany Quill (above) are deadly when fish are taking mayflies off the surface.







Because mayflies don't tolerate pollution, their presence attests to a stream's high water quality.

I picked out a rising fish and cast to it. The fly landed about 4 feet upstream from where the fish had splashed and drifted into the feeding lane. Water and flashes of bronze erupted as a smallmouth attacked the fly. The fight was on. My reel buzzed as fly line stripped from the spool. When I finally landed the fish, I held it up and admired it, before releasing it. My imitation had worked. Smallmouth bass are suckers for mayflies.

The *Isonychia bicolor* mayfly lives among the rocks at the bottom of streams. The *I. bicolor*, like all of Missouri's mayflies, is an invertebrate. It has no backbone. Since it can be seen without a magnifier, it is considered a macro-invertebrate.

I. bicolor remains at the bottom of the stream in its nymphal stage for a year. As the nymphal stage nears completion, the nymph swims to the surface of the water, and a transformation takes place. When the mayfly reaches the surface of the stream, its exoskeleton cracks open much like a cocoon.

The winged subimago (young adult) struggles to free itself from its final aquatic nymphal shuck. It then sits

quietly on the surface of the water drying its wings before taking its first flight, which will take it upstream to mate. It is at this point that the insect is most vulnerable to fish.

When I started tying flies 37 years ago, I had no idea that mayflies and smallmouth bass often occupied the same stretches of streams because they had similar needs. Most Missouri mayflies are very sensitive to organic pollutants and require high oxygen levels. Smallmouth bass also do best in clean water with high levels of oxygen. Both the insect and the fish that eats it require the same environmental conditions.

That's why the upper reaches of the Gasconade provide such good smallmouth bass fishing. The headwaters

How to stock a fly box.

When you sit down at your fly tying station, you should try to imitate what you saw on your last trip to the stream. Carrying a journal on the stream is a good idea for jotting down important tidbits of information like the color and size of the insects, the weather conditions and the time of year. Journals are also a great way to relive fantastic fishing adventures.

of the Gasconade River are in mostly rural areas in the Ozarks. Cattle farming and some row cropping contribute only a small amount of nutrients, pesticides and herbicides to the stream. Even though the Gasconade is one of Missouri's longer streams, it doesn't flow through any major municipalities and is not impacted by municipal water treatment plants.

If you spend much time wading rivers and streams looking under rocks, you'll soon learn that water quality and insect populations are usually connected. In some streams, you won't find a mayfly nymph, nor will you find a stonefly nymph or a caddis fly larva. These bugs are sensitive to pollutants and will not live in a stream that has a history of pollution.

A successful fly fisher understands the relationship between the insects represented on a hook, the fish, and the condition of the stream or water body he or she is fishing. The next time you visit a new stream or an old favorite, walk out into a riffle and look at the bottom of some of the rocks.

If all you find in your stream are pollution-tolerant insects like aquatic worms, leeches and black fly larva, it is likely that fishing won't be good. The absence of the sensitive species and the presence of only the tolerant species indicates long-term exposure to pollution. Sensitive macro-invertebrates mean clean water and healthy fish populations.

Pick it up—Pack it out

If you enjoy fishing, you probably already know how important it is to keep our streams clean and healthy. Everyone should pack out their own trash, but it's also helpful to pick up trash that others may have left behind.

Become an official caretaker of a section of your favorite fishing stream by joining the Missouri Stream Team program. Find out more about the Stream Team program at <www.mostreamteam.org> or call 800/781-1989.

Leeches, aquatic worms and black flies also may live in clean, unpolluted water, and there are some excellent fly tying patterns for these creatures. However, a healthy aquatic ecosystem should harbor a diversity of macro-invertebrates, including the sensitive ones.

Some streams are polluted by lagoon spills, leaking septic systems or myriad other pollution sources. If the problems are intermittent, the stream might still be healthy enough to support macro-invertebrates that are somewhat tolerant of disturbances. You may find crayfish, or sow bugs, or those wild and crazy, side-swimming scuds.

Fortunately, there are patterns in fly tying books for all of them. It is good to be able to identify various macro-invertebrates like the mayflies, caddis flies, and stoneflies. Until you can identify them, look in your fly tying pattern book and try to match the insect you see in size, color and shape. ▲



The clean water and mayfly connection offers another bonus: plenty of smallmouth to strike your lures.



No Muddy Waters For Stream Team

Reeds Spring High School students adopt a stream and a clean water philosophy.

By Kathryn Buckstaff, Photography by Cliff White

Tugging on boots, gloves and goggles, a group of teenagers wades into a creek just downstream from a wastewater treatment plant. This is not some strange initiation rite into a secret society. Instead, these kids are helping protect one of Missouri's most valuable resources. These kids are card-carrying (laminated, of course) members of Stream Team #432, from Reeds Spring High School.

This year, the 15 juniors and seniors who are members of the team will test the waters of Railey Creek in Stone County at five locations each month. For their past efforts, the team, which was formed in 1993, was one of three Missouri high schools honored with the 2002 Stream Team Achievement Award from the Missouri Department of Conservation.

The students from Reeds Spring High School are among 46,000 volunteers statewide who participate in Stream Team projects. Being a stream team



Reeds Spring High School Stream Team members floated the James River to pick up trash and test water quality.

member is a good way to participate in the protection and enhancement of Missouri's waterways.

"The work that Stream Teams perform is vital in improving the quality of Missouri's streams," said Tim Rielly, who coordinates volunteer water monitoring for the Missouri Department of Conservation.

"Having those eyes and ears out there really makes a big difference," Rielly said. "They discover problems, and then we go out there. They really add value to our efforts to protect our streams."

"They also change mindsets," Rielly said. "Future generations may think more before they litter and about what goes into their streams."

Passion For Preservation

The Reeds Spring program, led by science teachers Tonya Lewis and Mike Collins, has certainly succeeded in instilling conservation values. Of 104 juniors and seniors who have been Stream Team members over the past 10 years, 69 are now studying or working in an environmentally related field. Among those former students is Amber Spohn. Now a 20-year-old sophomore at the University of Missouri in Columbia, Spohn is pursuing a degree in hydrology, a field closely related to water quality.

"I want to work with water quality for the rest of my life," Spohn said. "The Stream Team had a huge, huge impact on my life. It laid the building stones for my entire life."

Spohn credits Collins, Lewis and her mother for her commitment.

"They created my passion for water quality," Spohn said. "I was raised by my mother to know there was something out there that was pristine before me, and that we could work to keep it pristine. Someone has to step forward and say we're going to help out."

At the University of Missouri, Spohn organized a new Stream Team and plans to revive two other campus teams.

Last year, Spohn devoted more than 400 hours to working with the Stream Team and the school's "R Project." The unique recycling project turns 75 percent of the food and paper waste from the 2,200-student Columbia school district into compost that's bagged and sold at the local Wal-Mart.

For her efforts, Spohn was named last year as Youth Conservationist of the Year by the Conservation Federa-

tion of Missouri. Spohn also was among the students who traveled last year to Washington D.C. to accept the President's Environmental Youth Award for the recycling project, one of 10 projects honored.

Watching the Waters

Stream Team members also develop important life skills, including teamwork, organization and public speaking. Although participation earns them an elective class credit, their work usually takes place before and after school, and on weekends. Activities include an annual float trip and camping expedition designed to heighten their appreciation of natural resources.

For monitoring water, they are guided by a detailed notebook provided by the Missouri Department of Conservation. It includes chapters on safety, trespassing and environmental laws. Students are trained to monitor the biology of a creek by recording observations of macro-invertebrates, such as dragonfly larvae and snails.

"This is another way to indicate the health of a stream," Lewis said. "If all they find is leeches," Lewis said, "you know right away that the stream has a problem."

After collecting water samples, students return to the school's laboratory to conduct tests for eight other indicators of stream health: fecal coliform, pH, dissolved oxygen, ammonia, nitrates, phosphates, living organisms and clarity. If they find levels of fecal coliform that exceed safety levels specified by the Missouri Department of Natural Resources, they alert officials from the local health department and the DNR.

The information collected by the students over nearly 10



Stream Team members develop water quality awareness as they monitor the health of Railey Creek in Stone County.

“Missourians are really genuinely attached to their streams for a variety of reasons: recreation, economics, aesthetics, or they’re just curious. And people want to do something to help. With this program, they can do it to whatever level of comfort they have.”

years now comprises a database that will enable future generations to track the creek’s health or decline, Lewis said.

Watching the Lawmakers

Besides monitoring streams, Stream Team students also monitor water quality issues in the Missouri legislature. Each year, they travel to Jefferson City to have breakfast with local legislators, and then they go to the Capitol to lobby legislators sponsoring bills of interest. Sometimes, working with the legislators has been an eye-opener, Lewis said.

“A lot of these students are of voting age, or close to it, so this is a real-life learning experience,” Lewis said. “We don’t tell them what to think, but we want them to think.”

The students also have wielded their political weight on local issues. In 2002, Columbia-based APAC Missouri Inc. was permitted by the Department of Natural Resources to set up a temporary concrete batch plant near the school to supply concrete for a highway project. Area residents were concerned that the operation could harm water quality because the plant would be located close to a sinkhole called Yocum Pond. The students negotiated with the DNR and APAC and were given permission to monitor water quality in the sinkhole.

“Well-informed kids are a very persuasive tool,” Rielly said. Chris Schwedtmann, APAC’s director of environmental health, called it a “win-win” situation.

“The community was willing to work with our company and the school district to find a workable solution from both ends,” Schwedtmann said.

During the summer, the students tested weekly for pH and dissolved oxygen levels in the sinkhole. Each time the levels rose above DNR standards, the student alerted APAC’s staff who adjusted operations to regain compliance.

“The Yocum Pond area today is just beautiful,” Collins said. “What we emphasize is that we’re not teaching them to be environmental activists. We’re teaching them to be active environmentalists.”

Fast Track To Success

Since its inception in 1993, the Stream Team program now has 2,395 teams statewide. These range from one-person teams to the virtual army that annually removes trash from the entire 40-mile length of the Jacks Fork River. Some teams mobilize entire communities and employ the aid of other agencies, including the U.S. Army Corps of Engineers.

The Stream Teams concept grew from the 1988 Rivers and Streams Conference sponsored by the Missouri Department of Conservation and the Conservation Federation of Missouri. There, more than 600 people set goals for education, stewardship and public advocacy. One goal was finding public and private resources to implement solutions across jurisdictional lines.

In 1991, a second conference added the sponsorship of the Missouri Department of Natural Resources. This pooled the resources of two influential agencies.

“There’s just a huge interest in streams and water resources in this state,” Rielly said. “Missourians are really genuinely attached to their streams for a variety of reasons: recreation, economics, aesthetics, or they’re just curious. And people want to do something to help. With this program, they can do it to whatever level of comfort they have.”

Ripples On The Pond

It may be difficult to measure the program’s direct impact on state water quality, but judging by the awards the program has received, somebody certainly believes it is making a difference. Missouri’s Stream Team program has won more than 50 national and state awards, including recognition from the U.S. Department of the Interior and the Environmental Protection Agency. Those on the front lines are eager to testify about the program’s value.

The notebook on water monitoring provided by the Department of Conservation contains quotes from early conservationist Aldo Leopold who said, “Everything’s connected to everything else.”

The dedicated science teachers at Reeds Spring High School relish watching students as they begin to understand that concept.

“When they come in the door, and they’re excited about science, it’s easy to teach,” Collins said. “They’re like little sponges willing to soak it up.”

Amber Spohn, who is barely out of her teens, has taken her concept of connection far beyond her local swimming hole.

“Not only do I hope my passion transfers to the younger generations and to other people,” Spohn said, “I hope it spreads throughout the United States and eventually throughout the world.”

For information on establishing a team, call 800/781-1989 or go online to <www.mostreamteam.org>. ▲



Under the tutelage of science teachers Tonya Lewis and Mike Collins (left), students sample stream invertebrates and test water acidity. They take water samples back to the lab to determine fecal coliform counts. More than half the Stream Team graduates, including Amber Spohn (below), have gone on to work or study in the environmental field.





A Survivor's Tale

On March 24, 1999, I was diagnosed with Stage II breast cancer. It was the day before my 31st birthday. Some birthday present, huh?

I lived in New Orleans at the time, far from all of my family who live in Missouri and Illinois. My family and my husband's family took turns coming to New Orleans to take care of me and help with our two little boys, who were then 6 and 3. We all became closer as a result of my illness. Over a period of six months, I received eight rounds of chemotherapy, followed by 35 sessions of radiation. I am proud to say I am now a 5-year survivor.

During my battle, something clicked between my father and me. We both understood that we only have a short time on earth, and we wanted to spend more of it together. When I was getting one of my treatments, I mentioned to my dad that I would like to go hunting with him sometime. He was surprised, but excited. He talked about turkey hunting and described its challenges. I was interested and suggested going with him on his next hunt.

Without hesitation, he said yes and flew me up a few months later for the 2000 spring season. I enjoyed the looks on my N'awlins friends' faces when I told them that I was going turkey hunting. Being a self-proclaimed "city girl," I don't fit the description of a typical turkey hunter. I like living in the suburbs where a shopping mall, movie theatre and great food are only minutes away from home. This was a real departure from my normal life.

My father had scouted a few locations and was confident we would find turkeys on his friend's property. For three days we heard birds gobble, but we were unable to bring them in close enough. Of course, my inability to sit still probably kept them away.

In my defense, I was cold and tired, and I wasn't used to being so quiet. I also was still trying to get my strength back because chemotherapy had done a number on my stamina. In fact, I spent a few hours each morning sleeping with my head on my dad's seat cushion. Dad just stroked my head while I slept. Veteran hunters would probably call that season unsuccessful, but for my father and me, it was just the opposite.

I came back the next year physically stronger and a bit wiser. My dad had warned me about a turkey's keen eyesight and that it would be able to see me before I'd see it. I also learned about their mating patterns and how turkeys roost at night. I found everything my dad taught me fascinating and developed a new respect for the birds.

I started to really enjoy the hunt. What had begun as a way to bond with my father had turned into a new passion. Unfortunately, I didn't bag a bird that year, either.

In the spring of 2002, my dad enlisted the help of his long-time friend, Mike Christensen, a Conservation Agent with the Missouri Department of Conservation. Mike agreed to take me out hunting. On the first morning we heard a few gobbles, but nothing was close.

*"Turkey
hunting
brought
me back
to Missouri,
and gave
me more
time with
my father"*

By Randee Wahlgren
Illustrations by Mark Raithel



The following morning, Mike and I watched at least three gobblers and four or five hens. One of the toms moved away from the flock and came toward our decoy. When the gobbler moved behind a tree, I positioned myself and aimed the shotgun. Mike whispered to take him when I was ready. When the turkey came out from behind a tree, I pulled the trigger. Well, I tried to pull the trigger, but nothing happened because in my excitement I'd forgotten to take the safety off.

I still had the bird in my sights, so I waited a few seconds for another good shot. The gobbler continued heading for the decoy, and I got another great opening. My heart seemed to stop as I steadied myself and pulled the trigger. The gun's recoil threw me back against Mike, who yelled, "You got him! Turn the safety on." Dazed, I just handed the gun to Mike. He quickly engaged the safety, laid the gun down and ran to the bird. I was right behind him.

I couldn't wait to tell my dad. When we reached the truck, I called him and relayed the whole story. I flew back to New Orleans the next day and told my husband, kids and friends the entire story. I couldn't wait for the next spring season to come around.

In August 2002, we moved to St. Louis. Leaving New Orleans was difficult, but living close to our families was important. We also wanted our sons to spend more time with their grandparents.

When I realized that I would be in Missouri for the entire spring 2003 turkey season, I got excited. I wanted to purchase my own gun, so I did a little research and bought a 12-gauge semi-automatic Baikal. It isn't fancy, but it's a good gun with mild recoil.

April couldn't come fast enough that year. I was excited about using my new gun and eager to hear those gobblers. My dad was confident there were turkeys on his property, so we hunted behind his house on opening day. We decided to split up, and I went to where we had spotted turkeys the past year.

In my previous hunts, I had relied on Mike and my dad to call birds, so I was unsure of how I would do on my own. I started calling, and it wasn't long before a tom appeared. I wasn't sure of the distance so I waited for him to get closer. I waited too long because when he got closer to my decoy, he saw something he didn't like and quickly trotted over a hill. I knew I had missed a great opportunity and mentally scolded myself for waiting too long.

I soon heard other gobblers and started calling again. There were at least two birds, and they were approaching

fast. They went silent for several minutes, and I was afraid they had lost interest. The next thing I knew, two beautiful toms stood about 10 feet behind my left shoulder. I was backed up against a tree, so I just watched from the corner of my eye.

They strutted for the decoy, which was about 20 feet in front of me. Then, the larger one opened up his wings and spread his fan. I'll never forget that sound. I was in awe. I had to wait and hope that he moved forward because I knew I couldn't turn quick enough to shoot. At times, it's a disadvantage to be left-handed.

They both stopped about 5 feet to my left, and their wings came down. They started putting and then trotted away. I knew they wouldn't be back.

My dad and I decided to hunt behind his house again in hopes that those same turkeys would be back. When I walked into the kitchen early that morning, I could tell my dad didn't feel well. He asked if I would be OK hunting alone, and I bravely said yes.

I left the house, determined not to come back without a turkey. This time I positioned myself so I could shoot if a turkey came from either direction. I started calling, and gobblers came from all directions. I kept

calling and heard a pair of turkeys approaching. They weren't in a hurry, so I stopped calling and waited.

After about 30 minutes, I started calling again with some soft yelps. The same gobblers answered me before I had even stopped. They seemed closer, so I continued with a few more eager calls and then put down my slate. I heard nothing for the longest time, but just when I was ready to start calling again, I saw movement in the distance. The brush was tall, but I was pretty sure I saw red. I watched as the tom paced back and forth in a zigzag pattern moving slowly toward my decoy and me.

When he was about 40 yards away, he moved behind a tree. I raised my gun, turned the safety off and aimed. I couldn't believe this was happening. I had actually called in a turkey all by myself! I followed him with my gun, and when I was sure he was within distance, I squeezed the trigger. My shot was true. The turkey was down. I proudly wrapped my tag around his leg and headed for the house.

As I laid the turkey down on the deck, I called for my dad. When he came out the door, his jaw fell open. He started laughing and hugged me. I hadn't seen him that excited in a long time. We drove to the check station, and as men were admiring the turkey, my dad said, "That's my daughter's turkey. She got it all on her own." ▲



Courtesy of Randee Wahlgren

Calling in a turkey on my own is one of my proudest accomplishments.



TOO MUCH SUGAR!

By Gus Raeker & Mike Stambaugh

Sugar maples are shading out Missouri's riverside oaks and hickories.

In the fall, the hills adjacent to the Missouri and Mississippi rivers seem ablaze with brilliant orange sugar maples. Few trees are as attractive as a sugar maple in autumn, but there is something haunting in all that orange.

Not long ago, these same hills contained a lot more of the reds, purples and yellows of oak and hickory. Slowly but surely, the oranges are taking over, indicating that the river hill forests are changing, and not for the better.

We have long had some sugar maple in our woods. In the last 50 years, however, the amount of sugar maple has increased dramatically. This is especially true in counties adjacent to the Missouri and Mississippi rivers, where land is especially productive because of loess, or wind blown silt. Loess is blown from the river bottoms and deposited on nearby slopes. In some areas, loess is more than 100 feet deep. In areas like these, sugar maples are overtaking most other forest vegetation.

The primary reason for the maple takeover is that over the last 50 or so years, we have stopped fires from burning our woods. Native Americans commonly used fire as a tool in Missouri. They burned the landscape to aid in hunting and fighting wars. They also used fire to



improve wildlife habitat, which helped ensure an abundance of game. The first European settlers also used fire, primarily to create and improve pasture lands.

Fire played a huge role in shaping the composition of our woods. Oaks and hickories are relatively tolerant of fire. Their thick bark helps protect them from intense heat. Smaller seedlings and trees may be “top-killed,” but their deep root crown allows them to resprout quickly and vigorously.

Maples have thinner bark at all ages and are much more vulnerable to fire. Until the widescale suppression of wildfire, maple growth was limited to protected sites that did not burn often. Now, maples grow uncontrolled in many places.

Where there is no fire, maples have an advantage over many oaks and hickories. Maples thrive in shaded conditions. They grow quite well in the understory of an oak-hickory forest. They’ll persist for decades, and have a good, growing head start when a large oak or hickory tree dies or falls. Generally, the competition in a forest is for sunlight, and maples usually shade out young oaks or hickories.

Although maple trees are beautiful, allowing them to

continue to take over our river hill forests will reduce plant and wildlife diversity.

The typical river hill forest overstory contains many different kinds of trees, including oak, hickory, ash, basswood, cherry and walnut. Beneath the canopy, you’ll often find a rich carpet of wildflowers, native grasses, sedges, shrubs, understory trees and some seedlings.

When sugar maple dominates, very few of these plants can survive. The densely leafed canopies of sugar maples allow very little light to reach the ground. Most types of vegetation cannot tolerate such heavy shade, so very little grows on the forest floor, except other maples.

Oaks, on the other hand, have fairly open canopies. Even in a dense oak forest, a considerable amount of light still reaches the ground.

Maple colonization also means fewer acorns for wildlife. Acorns last for several months, and without them, many animals could not survive through winter. Most of our river hill forests still contain many oaks in the overstory. However, as these old oak trees mature and die, or are harvested, they will be replaced by maple instead of oak, and there will be few acorns for wildlife.

Although maple trees are beautiful, allowing them to continue to take over our river hill forests will reduce plant and wildlife diversity.



Maple forests are colorful in fall (above) but allow little undergrowth for wildlife. At Little Lost Creek Conservation Area in Warren County, resource aide Sabe Caton (left) treats a maple stump with herbicide to prevent it from resprouting.

Maple does not provide much food value to wildlife. Deer and squirrels may eat maple buds in the spring, and birds might get some insects from the bark, but when a sugar maple seed drops in the fall, it either rots or sprouts quickly.

A lack of wildflowers, native grasses and shrubs in the understory of maple dominated stands means less vegetation for deer to browse, fewer insects for turkeys and other birds to eat, and less nectar for butterflies. It also means fewer places for animals to hide from predators.

Many landowners can improve their forests by controlling sugar maple. Many forests, including those in the southern Ozarks, have little or no problem with maple competition. In the river hills, however, maple control can improve wildlife habitat, promote diverse forest vegetation and increase the long-term value of the timber.

The River Hills region is one of the world's most important producers of oak veneer lumber. In some parts of Missouri, sugar maple can produce quality saw timber, too. However, on many of our soils, sugar maple wood becomes mineral-stained. Although structurally sound, such wood is not aesthetically suitable for furniture, flooring or similar uses.

Under the right conditions, a carefully controlled, prescribed burn can kill maple trees while doing little or no

damage to your desirable trees. Prescribed burns mimic historical disturbances and stimulate growth of herbaceous vegetation.

Prescribed burns usually won't kill maples larger than a couple of inches in diameter. Herbicide is a better method of controlling larger maples, and is a good alternative in areas where prescribed burns aren't practical or desirable. Herbicide also helps ensure that treated trees won't sprout back. Killing maples with herbicide is easier than it sounds. Depending on the chemical used and method chosen, it can be as simple as making a couple of hatchet marks in the bark and spraying the marks with herbicide. Don't cut or girdle maples without treating them with herbicide. They will just sprout back, and your efforts will be wasted.

If you cut trees down just as they are starting to leaf out, they may not sprout back. However, you only have a short window of time to try this.

Unless there are no maples present, a timber sale will only serve to accelerate maple growth and domination. If there is maple present in the understory, you need to treat it before cutting the overstory trees to ensure that future trees will be oak.

After treating the maple, it is important to wait until oak regeneration is established before cutting the overstory trees. After you are confident that enough oak regeneration is present, you can harvest trees.

The Conservation Department offers assistance to landowners who wish to control maples on their property. If you don't have the time or equipment, you can hire a contractor. Cost-share money may be available to help cover costs. If you are interested in conducting a prescribed burn on your property, you can learn a lot from attending a burn workshop sponsored by the Conservation Department.

Conservation Department foresters and private lands conservationists are available to offer guidance on how to best meet any conservation objectives. Call your local office to get more information or set up an appointment. Working together, we can ensure that there will be some reds, purples, and yellows in our River Hills for future generations to enjoy. ▲



Notching through the bark and spraying the wound with herbicide will kill a maple tree.

WHERE THERE'S FUEL, THERE COULD BE FIRE



**Too much fuel on the
forest floor can lead
to catastrophic fires.**

By George Hartman
Photography by Cliff White

Forests have always burned, but large fires in the South and in the West recently have caused an exceptional amount of property damage and an unfortunate loss of lives. What made these fires burn so hot and with such intensity was an accumulation of brush and dead wood on the forest floor.

Heavy fuel loads that result in damaging fires don't happen by accident. Ironically, they are often a result of too much fire control. As we have built our roads, reservoirs, towns, private homes and developments, we've extinguished fire from the natural cycle of our urban and suburban woodlands. Whenever fires threaten our homes and towns, we put them out quickly and aggressively. Our roads and right-of-ways also serve as natural fire breaks. Without periodic burning, however, fuel loads on the forest floor keep increasing. Eventually the fuel load becomes so high that it can contribute to an uncontrollable fire.

We also brought in non-native species of plants for forage, landscaping and timber production. These plants (fescue, brome, old world bluestems) create more dead fuels, while multiflora rose and non-native pines are richer in oils and resins so they burn hotter than naturally occurring vegetation.

While battling the wildfires that our culture helped to create, government began trying to control the fuel buildups that make wildfires worse. State and federal agencies across the nation have increased the amount of land burned intentionally (called prescribed burning) to reduce the amount of fuels available for wildfires. They have also increased the amount of timber harvested to decrease fuel loading.

At the same time, a group of six federal agencies initiated the Joint Fire Sciences Program. The participating agencies are the U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, National Park Service, U.S. Fish and Wildlife Service, and the U.S. Geological Survey. The Joint Fire Sciences Program uses federal funds to gather scientific information about wild land fuels and fuel manage-

As we have built our roads, reservoirs, towns, private homes and developments, we've extinguished fire from the natural cycle of our urban and suburban woodlands.



ment from across the nation. Sound scientific information is necessary for land managers to make the right choices when faced with fuel management issues.

Missouri is more fortunate than states to our west in our wildfire control efforts. Our climate is wetter, so we get a lot more rain each year than western states. The moisture helps our leaves and ground plants decay and return to the soil rather than accumulate as fuel. Also, when we have lightning storms here, they are generally accompanied by rain that puts out or limits the scope of fires started by the lightning strikes.

Southern states receive as much or more rain than we do. However, their wild land fuels are high in volatile compounds like resins and pitch, and many of their plants have waxy coatings that can catch fire with a lightning strike, even in the rain.

Drought makes woodlands especially vulnerable to burning. Add a strike from a dry, lightning storm, a carelessly thrown match, an escaped trash or brush pile fire or a deliberately set fire, and we can experience a forest fire disastrous to homes, property and people.

The Joint Fire Sciences Program is funding a research project in Missouri to determine just how much fuel we have in unburned and uncut forests, and how timber cutting and prescribed burning affect the fuel load.

Although we don't have the huge fuel loads that are typically found in the West, we also don't have accurate estimates on just how much fuel is on our forest floors. We know our woodlands have a mid-story of small trees that prevents sunlight from reaching the ground. We also know that our forest species have changed over the years toward a mix of species that thrives without any human disturbance.

The research project will tell us how much this new mixture of species and the altered stand characteristics affect the fuel load on the forest floor.

The Missouri Department of Conservation, the U.S. Forest Service North Central Research Station, the U.S. Geological Survey (USGS) and the University of Missouri are working cooperatively on the project. The study is being conducted on Conservation Department lands.

Two graduate students from the university are gathering data as part of their degree program. They are assisted by fire ecologists from the USGS and the Conservation Depart-



Information gathered during prescribed burns on test areas helps determine how timber cutting and prescribed burns impact forest floor fuel loads.



ment. The U.S. Forest Service provides funding and support staff. It is organizing the study results to develop management practices that can be used by both public and private landowners throughout America's central hardwood region.

The study takes place on three different blocks of land on the Clearwater and Logan Creek conservation areas. These blocks have not been thinned or burned in at least 30 years. Stands in each block are on south and north slopes and on ridges. Within the blocks, some stands will be thinned only. Some will be burned. Others will be burned and thinned, and some will be left untouched.

In the thinned stands, commercial loggers who have been trained and certified for low-impact logging practices will cut the smaller and poorer quality trees marked for removal. The thinnings are competitively bid, and Conservation Department foresters oversee the logging. Non-commercial trees, those too small or poorly formed to be harvested, are cut but left on the forest floor.

Costs and the income generated by the thinning, as well as the resulting increase in value of the remaining trees, are carefully

The Joint Fire Sciences Program is funding a research project in Missouri to determine just how much fuel we have in unburned and uncut forests, and how timber cutting and prescribed burning affect the fuel load.



Calculating the value and effectiveness of various types of forest management should result in fewer devastating fires in the future.

recorded so we can calculate the economic value of the various forest management practices.

We conduct prescribed burns in the spring, just before the trees leaf out. Department fire crews build fire lines around the stands to be burned and ignite the fires from these fire lines. The burning removes the litter and some of the dead wood from the forest floor.

University of Missouri student Jeremy Kolaks is studying the effect of prescribed burns on forest floor fuel loads. He buries sensors that tell him when an advancing fire crosses his plots. He also constructs flame height sensors (cotton string that has been soaked in flame retardant). These sensors tell him how fast the fire traveled and the height of the flames.

Kolaks also conducts fuel transect surveys to determine what the fuel loads were before management, and what effect thinnings and prescribed burns have on the fuel load.

Graduate student Erin McMurry is studying the vegetation changes within the forest as a result of these management practices. She is compiling information on the trees before and after management, including any noticeable damage to the trees from either the fire or the timber thinning operation. McMurry is also gathering information on the ground vegetation following the treatments.

The work of both Kolaks and McMurry involves near constant, on-the-ground work during the summer growing season. The students endure hot/humid weather, lots of soot and plenty of seed ticks to collect their data.

The information from this study will help us assess the forest fuel loads we have here in the central hardwood forests and provide a scientific basis for future fuel management decisions. ▲



Researchers monitor the heat and height of a test fire, as well as its impact on standing trees, downed logs and vegetation.





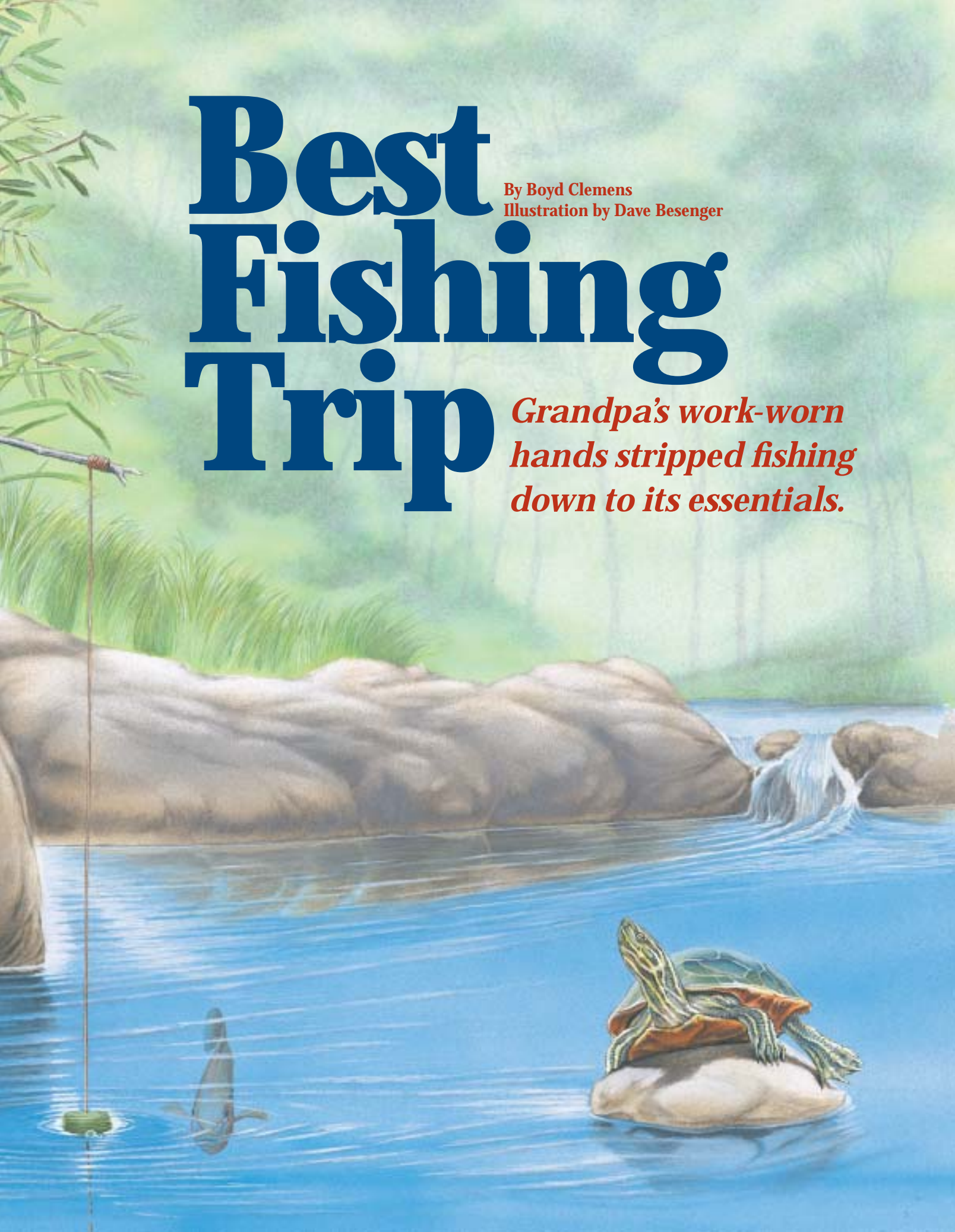
DAVID BESENGER

Best Fishing Trip

By Boyd Clemens

Illustration by Dave Besenger

Grandpa's work-worn hands stripped fishing down to its essentials.



August afternoons in Missouri are always hot, and this one was no different. I was 5 years old, and our country was at war with Japan. My daddy was off building the Alcan Highway, and my momma and I were visiting Grandpa's farm. Someone suggested we go fishing. I had never been fishing, but I was all for it.

Grandpa wasn't a serious fisherman. He was a farmer working to scratch out a living from 80 acres of rocky hills with six milk cows, some pigs and chickens, and a team of mules. He didn't have time for hobbies. Relaxation for him consisted of smoking a pipe and whittling.

Like all farmers, Grandpa was resourceful. So, when someone observed that we had no fishing gear, Grandpa

winked at me and opened his big tool chest. He rummaged inside for a minute and came up with a ball of stout brown twine.

"Here's our line," he said. Digging deeper, he extracted a Velvet Tobacco can that rattled when he shook it. He grinned at me and dumped about a dozen rusty fish hooks into his big hands.

"We don't have any bobbers!" said Momma, but Grandpa was a step ahead of her. We walked into the barnyard where he picked up a couple of dry corn stalks. With his ever present pocket knife, he cut a few short pieces of stalk and said, "There you go. Bobbers."

"How about sinkers?" Grandma asked.

Grandpa went back into the tool chest. He found some big nails which he bent into a circle with a pair of pliers and a hammer. "There's our sinkers," he said. "Now all we need is bait."

Grabbing a potato fork, he led me to the manure pile behind the barn. On the way, we stopped at the junk pile and found a can. A little digging at the edge of the pile produced some skinny red worms and fat white grubs, which Grandpa said no perch could refuse.

"How about fishing poles?" I asked.

"Don't worry about that," Grandpa replied, "We'll get them when we get to the creek."



Prancing and skipping like a racehorse approaching the gate, I went with Grandpa and Momma down the old wagon road to the creek. It took about 30 minutes to get there, but it seemed like forever. That creek and I would later become close friends, but I never knew if it had a name. Someone once told me it emptied into the Little Niangua River, but to me it was just the stream that ran through the farm. With a couple of deep holes filled with crawdads, some sunfish, frogs and a few turtles, it was a virtual paradise to a boy adventurer.

Momma contributed to our family income by working as a waitress at a local cafe. Most of the time she dressed in a starched white uniform and white shoes. When not in working clothes, she wore conservative dresses or a suit. For our fishing trip, she donned a long skirt that hung down to her ankles, brown, flat-soled shoes and one of Grandma's sun bonnets. In fact, I think the entire outfit was Grandma's, except for the long-sleeved work shirt. That was Grandpa's. It was the only kind of shirt he owned.

The old wagon tracks wound past the orchard and tomato patch to the big oaks that formed a shady canopy down to the water. We stopped from time to time for Grandpa to cut a fishing pole from a bush or sapling.

When we reached the creek, he tied twine to the poles, making each line just a little longer than the pole. First he tied on a piece of corn stalk. A little farther down he tied in a bent nail, and at the end, a hook. He put a big grub on my hook and showed me how to throw it in the water.

"Now then, Son, you're fishing," he said.

We sat on a flat rock ledge that hung over a shady pool fed by a small waterfall. I saw fish under the surface, but they seemed very small. We spoke softly and watched our floats, waiting for the moment when they would plunge out of sight. We sat so quietly that birds drank at the edge of the water a short distance away, and a little turtle climbed on a nearby rock to get some sun.

I caught the first fish. It was a bright, silvery sunfish that fought hard while I jerked it from the water and onto the rock. Grandpa assured me it was big enough to keep and took it off my line.

"Now we need a stringer," he said. He walked over to a sapling and cut off a forked branch. He cut one side of the fork down to about a foot long, and the other side

down to about 2 feet. He ran the long side of the fork through the fish's gill and lay the forked stick and fish in a small pool of water.

"That will keep him fresh for supper," he said, and we resumed fishing. We all caught fish that afternoon, but some were too small to keep. Momma's hand was our length limit. If a fish was smaller than Momma's hand, we threw it back.

We wandered down the creek, dropping our lines in any pool that might hold fish. Then we crossed and came back up the other bank. We saw a hawk, lots of caterpillars, some squirrels and a hornet's nest. I built a couple of boats from tree bark, but both sank in the shallow rapids.

Momma and Grandpa seemed to have as much fun as I did. She called him "Dad" and he called her "Sis." She gave a little squeal every time she caught a fish, and Grandpa chuckled as he took it off the hook. They laughed and reminisced about days past, and Grandpa teased her about how her sunbonnet was going to ruin her hairdo.

We also saw a brown snake swimming with a fish in its mouth. The fish was bigger than any we caught. Seeing the snake pretty much ended the fishing trip for Momma, so we trudged back up the shady road to home.

Grandma cleaned the fish and fried them in corn meal and bacon grease for supper. It was one of the best meals I've ever eaten. She assured me the biggest fish was the one I caught, and I ate it all after Momma picked out the bones.

In later years, I spent lots of time fishing with my other grandpa. He loved to fish and had rods and reels, tackle boxes and minnow buckets. I remember an overnight trip we took on the Gasconade River with some uncles. We caught a lot of fish, and two uncles gigged a bunch of frogs. We had a campfire, boiled coffee in a gallon bucket and roasted wieners.

As an adult, I've spent many a peaceful hour sitting on the bank or in a boat trying my best to outwit the fish below. I've never landed any trophies but I've caught a few that were "big enough to keep."

Of all the fishing trips I've taken, I must admit that none was more fun or as memorable as fishing with my Momma and Grandpa on the little creek that somewhere, maybe, empties into the Little Niangua River. ▲

Of all the fishing trips I've taken, I must admit that none was more fun or as memorable as fishing with my Momma and Grandpa on the little creek that somewhere, maybe, empties into the Little Niangua River.



Award recipients Dave Martz and Dwight Hamilton are flanked by Conservation Commissioner Stephen C. Bradford (left) and Department Director John Hoskins.

CONSERVATION LIFESAVERS HONORED

Conservation Department Construction Supervisor Dave Martz and Lead Equipment Operator Dwight Hamilton weren't looking for a pat on the back when they went duck hunting at Harrison County Lake Nov. 1, but they got one anyway.

The pair sprang into action when a small boat carrying another party of three hunters swamped and began to sink. They helped the victims out of the 40-degree water and into a warm vehicle in time to ward off life-threatening hypothermia, then went back and rescued the wet hunters' dog and equipment.

At its December meeting, the Conservation Commission presented Special Achievement Awards to Martz and Hamilton for their quick, heroic action.

Put a little nature on your plate

Express your love for conservation by purchasing Conservation License Plates for your vehicle.

Conservation-minded Missourians can choose from three designs featuring a largemouth bass, a white-tailed deer or a bluebird. Along with the colorful background design, buyers can choose a personalized, six-digit license plate number.

The Conservation License Plate costs \$25, all of which goes to the private, non-profit Missouri Conservation Heritage Foundation. The foundation uses the money for local conservation projects such as outdoor classrooms, and acquiring and protecting wildlife habitat. The Motor Vehicle Bureau charges an additional \$15 for the personalized plate number.



Conservation License Plates make affordable, personalized gifts for parents, children, friends, teachers or anyone who treasures the outdoors.

For more information about the plates and the work of the Foundation, contact Missouri Conservation Heritage Foundation, P.O. Box 366, Jefferson City, MO 65109. Phone 800/227-1488 or 573/634-2080.

Place seedling and shrub orders

As the weather begins to warm our thoughts turn to spring planting! It is not too late to buy seedling trees and shrubs from the Conservation Department's George O. White State Forest Nursery. To obtain an order form or to find out what species are still available, contact the nursery at 573/674-3229 or visit our website at

<www.mdc.mo.gov/forest/nursery/seedling/>.

BOBWHITE BOOSTERS get their own Web page

If you want to grow more quail on your property, the Conservation Department's Website has a page just for you. Visit

<www.conservation.state.mo.us/landown/wild/quail/> and learn what resources are available to bobwhite boosters.



It's an intricate world

If you think resource management problems half a world away don't concern you, think again. Global trade affects more than just the stock market.

For instance, the People's Republic of China currently faces a long-term water shortage. This limits agricultural productivity, which may eventually require China to buy more wheat from the United States. This, in turn, will influence whether farmers enroll or keep land in the Conservation Reserve Program (CRP). The CRP is an important part of efforts to restore bobwhite quail populations in the eastern United States. For upland bird hunters, China's water shortage is important news.



Check those fishing regulations!

Missouri anglers will find that 2004 fishing regulations include some changes that went into effect March 1. These include:

- ▲ Expanded reciprocal fishing privileges on the Mississippi River bordering Kentucky.
- ▲ An 8-inch minimum length limit on rock bass (goggle-eye) on the Big Piney River from Hwy 17 to the Gasconade River.
- ▲ Extending the 15-inch minimum length limit and one fish daily limit on smallmouth bass on the Big River to include the stretch from its mouth upstream to Leadwood Access in St. Francois County.
- ▲ A 15-inch minimum length limit and two fish daily limit on black bass on the Elk River in McDonald County.
- ▲ A 24-inch minimum length limit and one fish daily limit on flathead catfish on Longview Lake.
- ▲ Opening the James River from Lake Springfield Dam to the Highway 160 bridge to snagging, snaring and grabbing, and permitting paddlefish to be harvested and possessed on this portion of the river.

For details of these and other changes, see the 2004 Summary of Missouri Fishing Regulations, available wherever fishing permits are sold.

ATTENTION DISABLED HUNTERS!

The Randolph County Longbeards Chapter of the National Wild Turkey Federation is giving away a two day turkey hunt with Gunn Creek Outfitters to a disabled hunter. If you would like to be included in the drawing, contact Jason Shannon at 660/291-4724.

EXPIRATION INFORMATION

Missouri hunting and fishing permits expire the last day of February. A chance meeting with a conservation agent is no time to remember that you're carrying expired permits. Replace your permits now, before March 1, and avoid expiration exasperation later.



Urban hunt helps control city deer

During the state's first urban deer hunting season, held Oct. 25-26, hunters using bows, crossbows or muzzle-loading rifles killed 91 deer in and around St. Louis and Kansas City.

The urban deer portion of firearms deer season is our best tool for managing burgeoning urban deer populations. Giving hunters with short-range weapons an opportunity to harvest deer in developed areas gives local governments a way to reduce property damage, as well as injuries and deaths that result from deer-automobile collisions.

As more municipalities and counties pass laws allowing hunters to take deer, the season should help reduce deer numbers in urban areas. It also provides additional opportunities for people to enjoy lean, healthy Missouri venison.





Forest management is critical to quail coveys

Landowners who leave timbered acres out of their quail management strategy are missing a big opportunity. With careful, active management, brushy forest borders and openings can greatly enhance quail habitat.

Quail, rabbits and a variety of other wildlife depend heavily on “early successional habitat” — areas where disturbance sets back vegetation to square one. Although forest land alone is not good for quail, certain forest management practices can dramatically enhance quail habitat. Anything that creates openings in the forest canopy and allows sunlight to reach the ground will encourage herbaceous plants such as stick-tights, buck brush, blackberries and wild grapes. These plants create cover and food for quail.

Cutting down trees is most beneficial when done along the edge between forest and pastures or crop fields. Another highly beneficial strategy is cutting trees to create travel corridors between fields that are separated by forest.

When cutting trees, leave chinquapin and post oaks, which produce small acorns that quail eat. Fell trees on top of each other and leave them in place to create durable, open brush piles that quail can use as home bases for their daily activities.

Early successional habitat doesn't last. Brushy edges and forest openings grow up, and brush piles deteriorate, reducing their value to quail. You have to cut new openings every two or three years to ensure continued food and shelter for quail.

NO OBSTACLES IN SPECIAL TURKEY HUNT

Mobility-impaired hunters can enjoy Missouri's world class turkey hunting at the annual Mark Twain Lake Turkey Hunt for the Physically Challenged May 1-2 at Indian Creek Recreation Area.

The U.S. Army Corps of Engineers, which owns and manages Mark Twain Lake, works with local community groups to make the hunt memorable. Twenty physically challenged hunters get VIP service normally associated with expensive guided hunts.

Participants supply their own guns and ammunition, 20-gauge or larger. A limited number of guides are available, but participants are encouraged to bring their own helpers.

To qualify, applicants must be permanently disabled (non-ambulatory or semi-ambulatory), have valid hunter safety certification cards and valid spring turkey hunting permits.

For application materials, contact the Corps of Engineers, Mark Twain Lake, Rt. 2, Box 20A, Monroe City, MO 63456, 573/735-4097. Applications must be received by April 2. Reservations will be awarded by random drawing.



HABITAT HINT: *Prescribed Fire Can Help Your Prairie*

Fire is one of the best tools you can use to make your prairie landscape “grow native.”

Prairies, glades and savannahs evolved with fire, and fire can actually increase their vigor and diversity. Prescribed burning can produce more forage for cattle in native warm-season grass plantings and prairies and control woody plants and exotic grasses in fallow fields. It also retards exotic grasses and encourages the annual weeds that provide food for wildlife.

Prescribed burning can be more economical and environmentally sensitive than cutting trees or using herbicides to control invasive plant species, especially if you use it regularly.

To burn safely, it's best to prepare yourself with a burn workshop. Check with your local Conservation Department office for dates of burn workshops in your area. If you'd rather hire a trained professional to do the job, check out the list of conservation contractors or “habitat helpers” at www.mdc.mo.gov. Click on “Private Land Assistance,” then “Conservation Assistance Contractors.” You can also visit the Grow Native! Landscape Services at www.grownative.org under “Where to Buy.”

A trained professional can take the guesswork out of conducting a safe prescribed burn, giving you get the landscape effects you want, with fewer worries.



Sign on now for Lewis & Clark adventures

Two-hundred years ago this month, officials of France and Spain met in St. Louis to transfer ownership of the Louisiana Territory to the fledgling United States of America. Two months later, the Corps of Discovery, under the command of Capt. Meriwether Lewis and Lt. William Clark, set out to explore the newly acquired land, which doubled the size of our nation.

These events and much more will be memorialized in "signature events" organized by the national Lewis and Clark Bicentennial Commission. Art exhibits, demonstrations of pioneer skills, period music, historical programs and galas will be part of bicentennial events in St. Louis, St. Charles, Kansas City and virtually every community between. For more information on signature events, contact:

- ▲ St. Louis—Wendell Smith, 314/515-5255, wsmith@umsl.edu;
 - ▲ St. Charles—Venetia McEntire, 636/946-7776, info@booneslick.com;
 - ▲ Kansas City—Emilie Jester, 816/691-3846, ejester@visitkc.com.
- Or visit www.lewisandclark.state.mo.us/.

Health issues lurk beneath raccoons' "cute" exterior

Raccoons may look cuddly, but beneath their fuzzy exterior they are dangerous. Besides being fierce fighters when cornered, and potentially ill-tempered when mature, raccoons carry health hazards for people and domestic pets.

The Centers for Disease Control and Prevention in Atlanta, Ga., recently reported the first documented human death from raccoon rabies. It involved a 25-year-old Virginia man.

Raccoons also carry a parasite that can be deadly for humans or pets. The roundworm (*Baylisascaris procyonis*) is found in as many as eight out of 10 raccoons in some areas. It does not harm raccoons, which spread the worms' eggs in their feces. People, dogs and other pets that contact the eggs around areas frequented by raccoons can become infected.

In humans, the worms migrate to the central nervous system, eyes and other organs. Symptoms include lack of energy, nausea, loss of muscle control, liver enlargement and coma. Treatment is difficult.

To avoid problems, don't feed raccoons or keep them as pets. Discourage them from hanging around homes by making sure potential food items are out of their reach. For information about relocating raccoons and sanitizing areas they have used, visit the CDC Web site, <www.cdc.gov/ncidod/EID/vol9no12/03-0039.htm>.



CALL *OGT TO REPORT POACHERS

Reporting poachers is easier than ever. Cell phone users served by Southwestern Bell can touch *OGT to get a toll-free connection to Missouri's Operation Game Thief hot line. The increasing number of people who carry cellular phones constitute a huge network of mobile observers. Some hunters even carry cellular phones to their deer stands, making it possible to report illegal activities from perches in trees.



Coming soon to a location near you—FISH!

The Conservation Department's Mobile Fish Aquarium is on the road, bringing entertainment and education to communities statewide. Whether you are interested in learning what makes largemouth bass bite or what color of jigs crappie prefer, you'll love this touring educational facility. Upcoming appearances include:

- Jan. 16-18 - St. Joseph Sport, Boat and RV Show
- Jan. 23-24 - Black River Agriculture Expo, Poplar Bluff
- Feb. 3-8 - Ozark Mountain Anglers All Sports Show, Columbia
- Feb. 20-22 - Springfield Sport, Boat and RV Show
- March 31-April 3 - Pioneer Ridge Science Education Center, Independence
- April 22-25 - Powder Valley Conservation Nature Center, Kirkwood
- April 30-May 2 - Roaring Rivers Kids Fishing Day, Cassville
- May 6-8 - Serendipity Days, St. Clair
- June 11-13 - Army Birthday Celebration at the Lake, Wappapello
- June 25-27 - Ballwin Days Festival, Ballwin
- July 3-4 - Lewis & Clark National Signature Event, Kansas City
- July 21-27 - Boone County Fair, Columbia
- July 30-Aug. 8 - Ozark Empire Fair, Springfield
- Aug. 12-22 - Missouri State Fair, Sedalia
- Sept. 2-5 - Northwest Missouri District Fair, Bethany
- Sept. 6-10 - Putnam County Fair, Unionville
- Sept. 11-19 - Southeast Missouri District Fair, Cape Girardeau
- Sept. 24-26 - National Hunting and Fishing Day, Westfield Mall, Chesterfield

For more information about these events or to schedule an aquarium appearance in your area, call Jeff Finley at 573/884-6861, ext. 225.



Outdoor Calendar

HUNTING	OPEN	CLOSE
Coyotes	5/12/03	3/31/04
Deer, Archery	to be announced	
Deer, Firearms	to be announced	
(permits and regulations available in the summer)		
Squirrels	5/22/04	2/15/05
Rabbits	10/1/04	2/15/05
Crows	11/1/03	3/3/04
Turkey (spring)	4/19/04	5/9/04
Turkey (Youth Resident)	4/10/04	4/11/04

FISHING

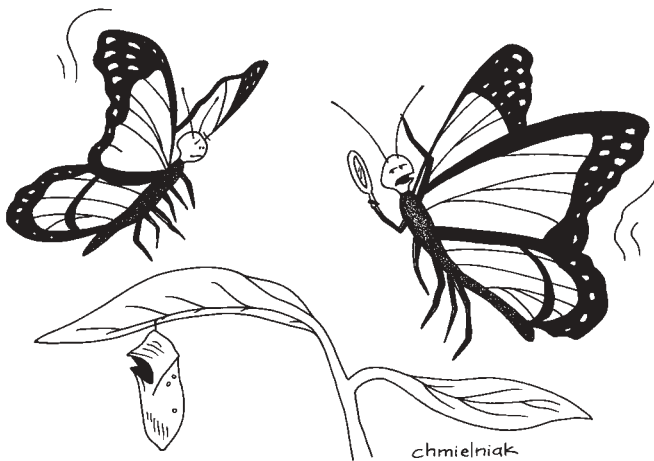
Black Bass (most southern streams)	5/22/04	2/28/05
Trout Parks	3/1/04	10/31/04
Bullfrog & Green Frog	Sunset 6/30/04	Midnight 10/31/04
Nongame Fish Snagging	3/15/04	5/15/04
Paddlefish	3/15/04	4/30/04

TRAPPING

Beaver	11/20/03	3/31/04
--------	----------	---------

For complete information about seasons, limits, methods and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, the *Fall Deer and Turkey Hunting Information*, *Waterfowl Hunting Digest* and the *Migratory Bird Digest*. To find this information on our Web site go to <http://www.mdc.mo.gov/regs/>.

The Conservation Department's computerized point-of-sale system allows you to purchase or replace your permits through local vendors or by phone. The toll-free number is 800/392-4115. Allow 10 days for delivery of telephone purchases. To purchase permits online go to <http://www.wildlifelicence.com/mo/>.



"Metamorphosis sounds so crude.
I prefer to call it "an extreme makeover.""



A whole lot of teachin' goin' on

Teaching hunter education classes becomes a team sport when Joe Crites is involved. In recent years, his classes have grown until it takes a dozen instructors and helpers to run them. More than 300 people age 11-60 registered for a class at the Anheuser Busch Natural Resources Building on the University of Missouri-Columbia campus last November. Of those, 245 graduated. One benefit of the team teaching required by a class this size is that students get the benefit of several instructors' styles and viewpoints.

AGENT NOTEBOOK

When poaching gets personal

I got the call sometime after 11 p.m. The report from the sheriff's office was that a deer had just been shot by three men in a truck using a spotlight. I called the eyewitness, who had very good information, including a license plate number. A short search turned up the dead doe, and the next day we were able to round up the three men involved in killing it.

The case sticks in my mind because, when I talked to the witness, she told me that this kind of activity happened all the time around her house. When I asked why she hadn't called before, she said she figured it was none of her business.

What made this night different for her, however, was that one of the bullets the poachers had fired at the deer missed, traveled over a quarter of a mile and went through a window in her house. It lodged in the wall just a few feet above her sleeping baby.

That's when poaching became personal for her.

People who take wildlife from motor vehicles, public roadways or with an artificial light are a black eye on all hunters and constitute a public hazard. Conservation Agents make every effort to stop this illegal behavior, and we are grateful for all the help we can get.

Citizen input combined with timely information can thwart poachers. Don't wait for a bullet go through your window before you decide to call your local conservation agent or Operation Game Thief at 800/392-1111. — Jeff Scott





Program Schedule

Television the way Nature intended!

Broadcast Stations

Cape Girardeau UPN "The Beat" WQTV / Sat. 8:30 a.m., Sundays 7 a.m.

Columbia KOMU (Ch 8 NBC) / Sundays 11 a.m.

Hannibal KHQA (Ch 7 CBS) / Saturdays 11 a.m.

Joplin KOZJ (Ch 26 PBS) / Saturdays 2 p.m.

Kansas City KCPT (Ch 19 PBS) / Sundays 7 a.m.

Kirksville KTVO (Ch 3 ABC) / Saturdays 5 a.m.

St. Joseph KQTV (Ch 2 ABC) / Weekends, check local listings for times

St. Louis KSDK (Ch 5 NBC) / Sundays, 4:30 a.m.

Springfield KOZK (Ch 21 PBS) / Saturdays 2 p.m.

Warrensburg KMOS (Ch 6 PBS) / Sundays 6:30 p.m.

Cable and Low Power Stations

Branson Vacation Channel / Fri., Sat. 8 p.m.

Brentwood Brentwood City TV, BTV-10 / Daily 4 a.m. & 5 p.m.

Cape Girardeau Charter Cable Ed. Ch. 23 / Thursdays 6 p.m.

Chillicothe Time Warner Cable Channel 6 / Thursdays 7 p.m.

Hillsboro JCTV / Mondays 12 p.m. & 6 p.m.

Independence City 7 / Thurs. 2 p.m., Sat. 10 a.m. & Sundays 8 p.m.

Joplin KGCS / Sundays 6 p.m.

Mexico Mex-TV / Fridays 6:30 p.m., Saturdays 6:30 p.m. & Sundays 6:30 p.m.

Noel TTV / Fridays 4:30 p.m.

O'Fallon City of O'Fallon Cable / Wednesdays 6:30 p.m.

Parkville City of Parkville / First and third Tuesdays of the month 6:30 p.m.

Perryville PVTV / Mondays 6 p.m.

Poplar Bluff City Cable Channel 2 / Tuesdays 7:30 p.m. and Saturdays 10 a.m.

Raymore Govt. Access-Channel 7 / Various, check local listings for times

Raytown City of Raytown Cable / Wed. 10 a.m. & Saturdays 8 p.m.

St. Charles City of St. Charles-Ch 20 / Tues. 5 p.m. and Wed. 10 a.m.

St. Louis Charter Communications / Saturdays 10:30 a.m.

St. Louis City TV 10 / Mondays 11:30 a.m., Wednesdays 3:30 p.m.

St. Louis Cooperating School Districts / Wednesdays 9 a.m.

St. Louis DHTV-21 / Mondays 10:30 a.m.

St. Louis KPTN-LP/TV58 / Thursdays 10 a.m.

St. Peters City of St. Peters Cable / Various, check local listings for times

Ste. Genevieve Public TV / Fridays 1 p.m., 6 p.m. & 12 midnight

Springfield KBLE36 / Nine times a week, check local listing for times

Sullivan Fidelity Cable-Channel 6 / Wed. 11 a.m. and Fri. 7 p.m.

Union TRC-TV7 / Tuesdays 3 p.m.

West Plains OCTV / Mondays 6:30 p.m.

Meet our Contributors



Kathryn Buckstaff has been Branson Bureau Chief for the *Springfield News-Leader* for 12 years. Raised in the pine woods of northern Wisconsin, she now lives in a grove of oaks near Lake Taneycomo. She writes for a variety of magazines and is the author of murder mysteries including "No One Dies In Branson."

Boyd Clemens was born and raised in Marshfield. After working 35 years in Chicago, he retired to a "flat hill farm" in Illinois. He recently passed away, but told his wife that he was proud that the story of his fishing trip, one of his many memorable outdoor adventures, was to be printed in the *Conservationist*.



George Hartman, author of several articles for the *Conservationist*, is the Conservation Department's fire ecologist. He studies the role of fire in land management programs. George describes himself as a "baby boomer" and an "empty nester." He and his wife, Linda, live on a small horse farm in Cooper County. He enjoys hunting and trail riding.

Gus Raeker is a resource forester with the Conservation Department in Warrenton. He manages three conservation areas and works with private landowners in Warren and Lincoln Counties. He and his wife, Shanna, inherited a great love for the outdoors. They are anxious to pass this love along to their new baby girl, Abby.



Mike Stambaugh is a forest research specialist at the University of Missouri-Columbia, where he studies tree-rings to learn about forests and the environment. Mike lives in Columbia with his wife, Amy, and daughter, Silvia.

Mark Van Patten was a member of the first Stream Team in 1989. He later became the statewide Stream Team coordinator for the Conservation Federation of Missouri. He now holds the same position with the Conservation Department. Mark is a dedicated fly tyer and hosts a public television show on fly tying.



Randee Wahlgren lives in O'Fallon with her husband, Rob, and two sons, Alex and Sam. She works part-time as a certified fitness instructor and personal trainer. Randee and her family enjoy many outdoor activities and make health and fitness a priority.



Golden Fishing Moment

Dawn's golden light surrounds a trout angler at Lake Taneycomo in Taney County. — *Cliff White*